CLAIMS

1. A shunt/mechanical connector comprising:

a shunt electrical conduction path for predetermined electrical current such that the predetermined electrical current does not pass through grid array connectors of grid-array-mounted electrical components; and

a mechanical support disposable between the electrical components to provide support thereto.

2. A shunt/mechanical connector as claimed in Claim 1, where the shunt electrical conduction path has a cross-sectional area greater than that of any one of the grid array connectors, so as to provide a lower resistance shunt path for current than the grid array connectors.

3. A shunt/mechanical connector as claimed in Claim 1, where the shunt electrical conduction path has at least one contact to electrically contact at least one of a pad, a via, and predefined PCB conductive patterns electrically connected to a power or ground plane of at least one of the electrical components.

4. A shunt/mechanical connector as claimed in Claim 1, where the shunt /mechanical connector is providable in a location in at least one of: a predetermined reserved component area of the grid array arrangements; within a grid array connector area having the plurality of grid array connectors; outside of the grid array connector area, but through any socket assembly providing the plurality of grid array connectors; and, outside of any socket assembly.

5. A shunt/mechanical connector as claimed in Claim 1, where the shunt/mechanical connector is substantially made of at least one of rigid electrically conductive sections formed as one of a molded, stamped, etched, extruded and deposited arrangement, and is capable of withstanding temperatures of at least a normal electrical component operation of the electrical components.

6. A shunt/mechanical connector as claimed in Claim 1, the shunt/mechanical connector arrangement being one of provided separately from, and integrated with one of, the electrical components.

7. A shunt/mechanical connector as claimed in Claim 1, where one of the electrical components is one of: a motherboard, a printed circuit board (PCB); and a receiving substrate, and another of the electrical components is one of: a semiconductor package; a semiconductor package having an interposer; and an interfacing substrate.

8. A shunt/mechanical connector as claimed in Claim 1, a grid array mount being one of: a bump/ball grid array (BGA); a micro BGA (μBGA); a pin grid array; and a micro pin grid array.

9. A mounted electrical components arrangement comprising:

a plurality of grid-array-mounted electrical components; and

a shunt/mechanical connector including a shunt electrical conduction path for predetermined electrical current such that the predetermined electrical current does not pass through grid array connectors of the grid-array-mounted electrical components, and a mechanical support between the

electrical components to provide support thereto.

10. A mounted electrical components arrangement as claimed in Claim 9, where the shunt electrical conduction path has a cross-sectional area greater than that of any one of the grid array connectors, so as to provide a lower resistance shunt path for current than the grid array connectors.

11. A mounted electrical components arrangement as claimed in Claim 9, where the shunt electrical conduction path has at least one contact in electrical contact with at least one of a pad, a via, and predefined PCB conductive patterns electrically connected to a power or ground plane of at least one of the electrical components.

12. A mounted electrical components arrangement as claimed in Claim 9, where the shunt/mechanical connector is providable in a location in at least one of: a predetermined reserved component area of the grid array arrangements; within a grid array connector area having the plurality of grid array connectors; outside of the grid array connector area, but through any socket assembly providing the plurality of grid array connectors; and, outside of any socket assembly.

13. A mounted electrical components arrangement as claimed in Claim 9, where the shunt/mechanical connector is substantially made of at least one of rigid electrically conductive sections formed as one of a molded, stamped, etched, extruded and deposited arrangement, and is capable of withstanding temperatures of at least a normal electrical component operation of the electrical components.

14. A mounted electrical components arrangement as claimed in Claim 9, the shunt/mechanical connector being one of provided separately from, and integrated with one of, the electrical components.

15. A mounted electrical components arrangement as claimed in Claim 9, where one of the electrical components is one of: a motherboard, a printed circuit board (PCB); and a receiving substrate, and another of the electrical components is one of: a semiconductor package; a semiconductor package having an interposer; and an interfacing substrate.

16. A mounted electrical components arrangement as claimed in Claim 9, a grid array mount being one of: a bump/ball grid array (BGA); a micro BGA (μBGA); a pin grid array; and a micro pin grid array.

17. A shunt/support device comprising a shunt/support member disposable between electrical components mountable together with opposing grid array arrangements having a plurality of grid array connectors, the shunt/support member engageable with the electrical components to at least one of mechanically support and secure the electrical components with respect to each other, and having at least one electrical conduction path electrically connectable so as to shunt more than a majority portion of at least one predetermined type of current flowable between the electrical components, from flowing through ones of the plurality of grid array connectors.

18. A shunt/support device as claimed in Claim 17, the shunt/support member being at least one shunt/support post disposable between the electrical components.

19. A shunt/support device as claimed in Claim 17, the shunt/support member disposable to shunt substantially all of the at least one predetermined type of current.

20. A shunt/support device as claimed in Claim 17, the shunt/support member being capable to shunt the more than a majority portion of the at least one predetermined type of current, by the at least one electrical conduction path having a lower electrical resistance for current flowable between the electrical components through the shunt/support device, in comparison to an electrical resistance through the ones of the plurality of grid array connectors.

21. A shunt/support device as claimed in Claim 20, with the at least one electrical conduction path having the lower electrical resistance by at least one of: having a current-carrying cross-sectional area measured perpendicularly across an electrical current flow direction therethrough which is greater than a corresponding cross-sectional area of the ones of the plurality of grid array connectors; and being constructed of material which is lower in electrical resistance than an electrical resistance of a material of the ones of the plurality of grid array connectors.

22. A shunt/support device as claimed in Claim 17, the at least one predetermined type of current being one of a power supply current, a grounding current, and a high-voltage current.

23. A shunt/support device as claimed in Claim 17, the shunt/support member being securable

with the electrical components using at least one of solder, welding, at least one fastener, and glue, so as to mechanically secure the electrical components with respect to each other.

24. A shunt/support device as claimed in Claim 17, being disposable in a location in at least one of: a predetermined reserved component area of the grid array arrangements; within a grid array connector area having the plurality of grid array connectors; outside of the grid array connector area, but through any socket assembly providing the plurality of grid array connectors; and, outside of any socket assembly.

25. A shunt/support device as claimed in Claim 17, where one of the electrical components is one of: a motherboard, a printed circuit board (PCB); and a receiving substrate, and another of the electrical components is one of: a semiconductor package; a semiconductor package having an interposer; and an interfacing substrate.

26. A shunt/support device as claimed in Claim 17, the grid array arrangements being one of: a bump/ball grid array (BGA); a micro BGA (μBGA); a pin grid array; and a micro pin grid array.

27. A shunt/support device as claimed in Claim 17, where the shunt/support member comprises aligner components to substantially align the opposing conductive grid-array patterns of the electrical components during mounting together thereof.

28. A system comprising:

electrical components mounted together with opposing grid array arrangements having a plurality of grid array connectors; and

a shunt/support device including a shunt/support member disposed between and engaged with the electrical components to at least one of mechanically support and secure the electrical components with respect to each other, and further including at least one electrical conduction path electrically connected so as to shunt more than a majority portion of at least one predetermined type of current flowable between the electrical components from flowing through ones of the plurality of grid array connectors.

29. A system as claimed in Claim 28, the shunt/support member being at least one shunt/support post disposable between the electrical components.

30. A system as claimed in Claim 28, the shunt/support member disposable to shunt substantially all of the at least one predetermined type of current.

31. A system as claimed in Claim 28, the shunt/support member being capable to shunt the more than a majority portion of the at least one predetermined type of current by the at least one electrical conduction path having a lower electrical resistance for current flowable between the electrical components through the shunt/support device, in comparison to an electrical resistance through the ones of the plurality of grid array connectors.

32. A system as claimed in Claim 28, with the at least one electrical conduction path having

the lower electrical resistance by at least one of: having a current-carrying cross-sectional area measured perpendicularly across an electrical current flow direction therethrough which is greater than a corresponding cross-sectional area of the ones of the plurality of grid array connectors; and being constructed of material which is lower in electrical resistance than an electrical resistance of a material of the ones of the plurality of grid array connectors.

33. A system as claimed in Claim 28, the at least one predetermined type of current being one of a power supply current, a grounding current, and a high-voltage current.

34. A system arrangement as claimed in Claim 28, the shunt/support member being securable with the electrical components using at least one of solder, welding, at least one fastener, and glue, so as to mechanically secure the electrical components with respect to each other.

35. A system as claimed in Claim 28, the shunt/support device being disposable in a location in at least one of: a predetermined reserved component area of the grid array arrangements; within a grid array connector area having the plurality of grid array connectors; outside of the grid array connector area, but through any socket assembly providing the plurality of grid array connectors; and, outside of any socket assembly.

36. A system as claimed in Claim 28, where one of the electrical components is one of: a motherboard, a printed circuit board (PCB); and a receiving substrate, and another of the electrical components is one of: a semiconductor package; a semiconductor package having an interposer; and an interfacing substrate.

37. A system as claimed in Claim 28, the grid array arrangements being one of: a bump/ball grid array (BGA); a micro BGA (μBGA); a pin grid array; and a micro pin grid array.

38. A system as claimed in Claim 28, where the shunt/support member comprises aligner components to substantially align the opposing conductive grid-array patterns of the electrical components during mounting together thereof.